

# Taxonomic notes on South-Brazilian species of *Mikania* WILLD. (Asteraceae - Eupatorieae)

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## Abstract

We verified, after analysing material and types in a recent taxonomic study about the genus *Mikania* in Rio Grande do Sul State, Brazil, that several species should be placed into synonymy and lectotypes should be designated. In this work, ten new synonymies and ten new lectotypes are proposed. Pertinent comments on each species are presented.

**Key words:** *Mikania*, Eupatorieae, Asteraceae, taxonomy.

## Resumo

Em um recente estudo taxonômico sobre o gênero *Mikania* no Estado do Rio Grande do Sul, Brasil, após a análise de material e de tipos, verificou-se que várias espécies deveriam ser sinonimizadas e lectotipificadas. Neste trabalho, dez novas sinonímias e dez novas lectotipificações são propostas. São apresentados comentários pertinentes para cada espécie.

## Introduction

*Mikania* WILLD. includes about 450 species (HOLMES 1996); it is a mainly neotropical genus with some species spread in the temperate America and paleotropics (CABRERA et al. 1996).

Most of the species are twining and climbing vines, but several erect species also occur.

The species of *Mikania* occur in different habitats; the vines are mainly found on the edges of or inside forests and the erect species are found in grasslands.

This genus is characterized by the constancy of characters, with capitula formed by a subinvolucral bract, four involucral bracts and four flowers.

During the taxonomic study of *Mikania* in south Brazil, collections of several herbaria in Brazil and other countries were examined, besides type specimens, photocopies, digitalized images and pictures of types that were sent by the herbaria. We verified that some species should be placed into synonymy and others accepted with new lectotypes, as proposed herein.

### 1. *Mikania burchellii* BAKER

*Mikania burchellii* BAKER, Fl. Bras. 6(2):232.1876. Type: Brasiliae, prov. Minarum ad Caldas, REGNELL III, n. 722, 1867 (lectotype BR!, herein designated; photocopy of the lectotype BR!).

*Mikania salicifolia* HASSL., Feddes Repert. 12:367-368.1913. Type: Paraguay, ad margines humidus silvarum Santo Tomas (Parag. septent.), HASSLER 11291, 1912-1913 (holotype G; digitalized image of holotype G!; picture of holotype F!; isotypes MO, NY!; photocopy of isotype S!, BM!). syn. nov.

BAKER mentioned three syntypes in the protologue of *M. burchellii* (REGNELL III 722 (BR), WIDGREN 234 (BR) and BURCHELL 4920 (BR)), which caused us to propose the material of the herbarium BR, the better preserved specimen REGNELL III 722, as lectotype.

We also propose to place *M. salicifolia* into synonymy of *M. burchellii* because there is no diagnostic character that differentiates the former from the latter.

### 2. *Mikania campanulata* GARDNER

*Mikania campanulata* GARDNER, London J. Bot. 5:489.1846. Type: Near to cidade do Serro, Province of Minas Geraes, 1840, GARDNER 4888 (holotype B; picture of holotype F!; isotypes NY!, R!; picture of isotype K!; photocopy of isotype BM!, S!; digitalized images of isotype GH!, US!).

*M. subluxa* MALME, Kungl. Svenska Vetenskapskad. Handl. Ser. 3,12(2):58.1933. Type: Paraná, Turma 23 pr. Desvio Ribas, in fruticetis, 800 m s.m., 14 IV. 1909, DUSÉN 8047 (lectotype S, herein designated; photocopies of lectotype S! and isolectotype S!).

Two syntypes are mentioned in the protologue of *M. subluxa*, DUSÉN 8016 (S) and DUSÉN 8047 (S). We propose the material DUSÉN 8047, which presents the most complete plant, as lectotype of *M. subluxa*.

### 3. *Mikania chlorolepis* BAKER

*Mikania chlorolepis* BAKER, Fl. Bras. 6(2):247.1876. Type: Minas Geraes ad Caldas, 1867, REGNELL III n. 727 (lectotype K, herein designated; picture of lectotype K!; isolectotype BR!; photocopy of isolectotype BR!).

Three syntypes are mentioned in the protologue of *M. chlorolepis*, REGNELL III 727 (BR, K), WIDGREN 133 (S, non vidi) and WIDGREN 176 (K). In this work, material REGNELL III 727 deposited in herbarium K is designated as lectotype; it presents the stem with the most characteristic adult leaf.

### 4. *Mikania decumbens* MALME

*Mikania decumbens* MALME, Kungl. Svenska Vetenskapsakad. Handl. Ser. 3, 12(2):52. 1933. Type: Minas Geraes, Caldas, 23 II. 1845, REGNELL III, n. 716 (holotype S!; digitalized image of holotype S!); Serra de Caldas, 20 IV. 1870, REGNELL III, n. 1739 (paratype S, non vidi).

*M. kleiniana* CABRERA, Sellowia 15:236.1963. Type: Santa Catarina, Lages, Morro Pinheiro Seco, L.B. SMITH & R. KLEIN 12214, 16 III. 1957 (holotype LP!; isotype HBR!); Joaçaba, 62 km west of Caçador, L.B. SMITH & R. KLEIN 11418, 18 II. 1957 (paratype LP!); Lages, 2 km east of Índios, L.B. SMITH & R. KLEIN 11234, 11 II. 1957 (paratype LP!; isoparatype HBR!, RB!); Lages, B. RAMBO 49634, 10 I. 1951 (paratype HBR!); Joaçaba, 3-15 km east of Ponte Serrada, L.B. SMITH & R. KLEIN 11878, 26 II. 1957 (paratype US). syn. nov.

*M. kleiniana* is proposed as new synonym of *M. decumbens* because the differential characters mentioned by CABRERA (1963) vary in the specimens analysed and a diagnostic character to separate them as distinct taxa was not found.

### 5. *Mikania fulva* (HOOK. & ARN.) BAKER

*Mikania fulva* (HOOK. & ARN.) BAKER, Fl. Bras. 6(2):222.1876. Type: The same as of *Eupatorium fulvum*.

*Eupatorium fulvum* HOOK. & ARN., Companion Bot. Mag., 1:241.1835. Type: Prov. Rio Grande do Sul, TWEEDIE s.n. (holotype K; picture of holotype K!).

*Mikania ternifolia* DC., Prodr. 5:188.1836. Type: Brasiliae prov. Rio Grande, 1833, GAUDICHAUD 778 (holotype P; picture of holotype P!; digitalized image of holotype P!; picture of holotype F!). syn. nov.

*Mikania ternifolia* DC. var. *senecioides* BAKER, Fl. Bras. 6(2):223.1876. Type: Ad Montevideo, SELLO 274 (holotype not found). syn. nov.

*Willoughbya ternifolia* (DC.) KUNTZE, Revis. Gen. Pl. 1:373.1891. Type: The same as of *M. ternifolia*. syn. nov.

*Mikania hassleriana* CHODAT, Bull. Herb. Boissier Ser. 2, 3:712. 1903. Type: Paraguay, pr. Valenzuela, febr., HASSLER 7083 (holotype B; picture of holotype SI!). syn. nov.

*Mikania hassleriana* CHODAT forma *cuneifolia* CHODAT & HASSL., Bull. Herb. Boissier Ser. 2, 3:712. 1903. Type: Paraguay, pr. Arroyo Primero in regione fluminis Apa, jan., HASSLER 8337 (holotype not found; isotype GH). syn. nov.

*Mikania senecioides* SCH. BIP. ex BAKER, Fl. Bras., 6(2):223.1876. nom. nud. in syn.

*Mikania montevidensis* SPRENG. ex BAKER, Fl. Bras., 6(2):222.1876. nom. nud. in syn.

The shape and arrangement of leaves were indicated as differences between *M. fulva* and *M. ternifolia* according to some authors. However, we observed that it is common to find in an individual whorled leaves on the base and opposite leaves on median and upper portion of the stem. Besides that, there is not a well-defined morphological discontinuity in the shape of leaves since intermediate materials are found.

We verified that *M. fulva* and *M. ternifolia* are the same species and once *M. fulva* was found to have priority over *M. ternifolia*, the latter was placed into synonymy.

The same criteria were used to put *M. hassleriana* CHOD., cited from Paraguay and described with opposite leaves, into synonymy.

#### 6. *Mikania glomerata* SPRENG.

*Mikania glomerata* SPRENG., Syst. Veg. Fl. Peruv. Chil. 3:421.1826. Type: Brasilia, SELLO s.n. (holotype probably in B; picture of the probable holotype F!; digitalized image of the probable holotype GH!).

*Cacalia trilobata* VELL., Fl. Flum. 315. (1825)1829. Type: Plate n. 54 (lectotype VELL.!, herein designated).

*Mikania hederæfolia* DC., Prodr. 5:202.1836. Type: In Brasiliae circa Rio de Janeiro legit cl. LUND 495 (lectotype G, herein designated; digitalized image of lectotype G!; picture of lectotype F!).

*Mikania hatschbachii* G.M. BARROSO, Arch. Jard. Bot. Rio de Janeiro, 16: 326. 1958. Type: Paraná, Guaratuba, rio São João, faz. Rio do Melo, HATSCHBACH 4928, 30. VII. 1958 (holotype RB!; isotype MBM!, SP!). syn. nov.

We propose a lectotype for *Cacalia trilobata* VELL., being the plate n. 54 by VELLOSO (loc. cit.).

Two syntypes are mentioned in the protologue of *M. hederæfolia*, LUND n. 495 (G) and BLANCHET n. 2111 (G). We propose a lectotype for *M. hederæfolia*, choosing the

material LUND n. 495 (G), which presents better conditions and is cited as type in the TROPICOS database and in the list of types of herbarium F.

*Mikania hatschbachii* G. M. BARROSO was placed into synonymy with *M. glomerata*, since relevant differential characters to distinguish them were not found. The differential characters pointed out by BARROSO (1958), such as shape and consistence of leaves, inflorescence and size of the corolla tube, varied a lot in all material we examined, including in same individual.

#### 7. *Mikania hastato-cordata* MALME

*Mikania hastato-cordata* MALME, Ark. Bot., 24a(6): 39, 1931. Type: Quinta pr. Rio Grande, in silvula humida, 5 Nov. 1901, REGNELL II MALME 227 (lectotype S!, herein designated).

Two syntypes are mentioned in the protologue, MALME 227 (S) and SELLOW 2234 (not found). We propose to designate as lectotype the material MALME 227, which presents good conditions and is deposited in herbarium S, where the samples collected by MALME are deposited.

#### 8. *Mikania paranensis* DUSÉN

*Mikania paranensis* DUSÉN, Ark. Bot. 9(15):21.1910. Type: Campo bei Villa Velha, 10 Mar. 1904, DUSÉN 4088 (lectotype S!, herein designated; photocopy of isotype S!; isolectotype R!).

Two syntypes are mentioned in the protologue, DUSÉN 4088 (R, S) and DUSÉN 8285 (S). We designated DUSÉN 4088 of herbarium S as lectotype. This material presented illustrations of details of the capitula, which is also found in the protologue. The material of herbarium R was considered as an isolectotype.

#### 9. *Mikania ternata* (VELL.) B.L. ROB.

*Mikania ternata* (VELL.) B.L. ROB., Contr. Gray Herb.39:198. 1911. Type: The same as of *Cacalia ternata*.

*Cacalia ternata* VELL., Florae Fluminensis, 315. 1825 [1829]. Type: Plate n. 56 (lectotype VELL.!, herein designated).

*C. septennata* VELL., Florae Fluminensis, 316. 1825 [1829]. Type: Plate n. 63 (lectotype VELL.!, herein designated).

We propose VELLOSO's plates to be lectotypes for *Cacalia ternata* and *C. septennata*.

We accept the priority of the name *Mikania ternata* (VELL.) B.L. ROB. over *M. dentata* SPRENG., as proposed by HOLMES (2001).

### 10. *Mikania variifolia* Hieron.

*Mikania variifolia* Hieron., Bot. Jahrb. Syst. 22:793.1897. Type: Argentina, "Entre Rios, in Gebüsch an Flussufer bei Concepcion del Uruguay", April 1877, LORENTZ 1035 (lectotype G, herein designated; digitalized image of lectotype G!; isolectotype BAF!, CORD!; digitalized image of a fragment of lectotype GH!).

Four syntypes were mentioned in the protologue, LORENTZ 1035 (G), LORENTZ 1240 (B, CORD), NIEDERLEIN 156 (not found) and SELLO 3622 (not found). We propose the material LORENTZ 1035 deposited in herbarium G to be the lectotype because it includes a complete specimen with adult leaves.

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